Quality Improvement at an Academic Medical Center: Moving from theory to clinical practice

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Houston, Texas
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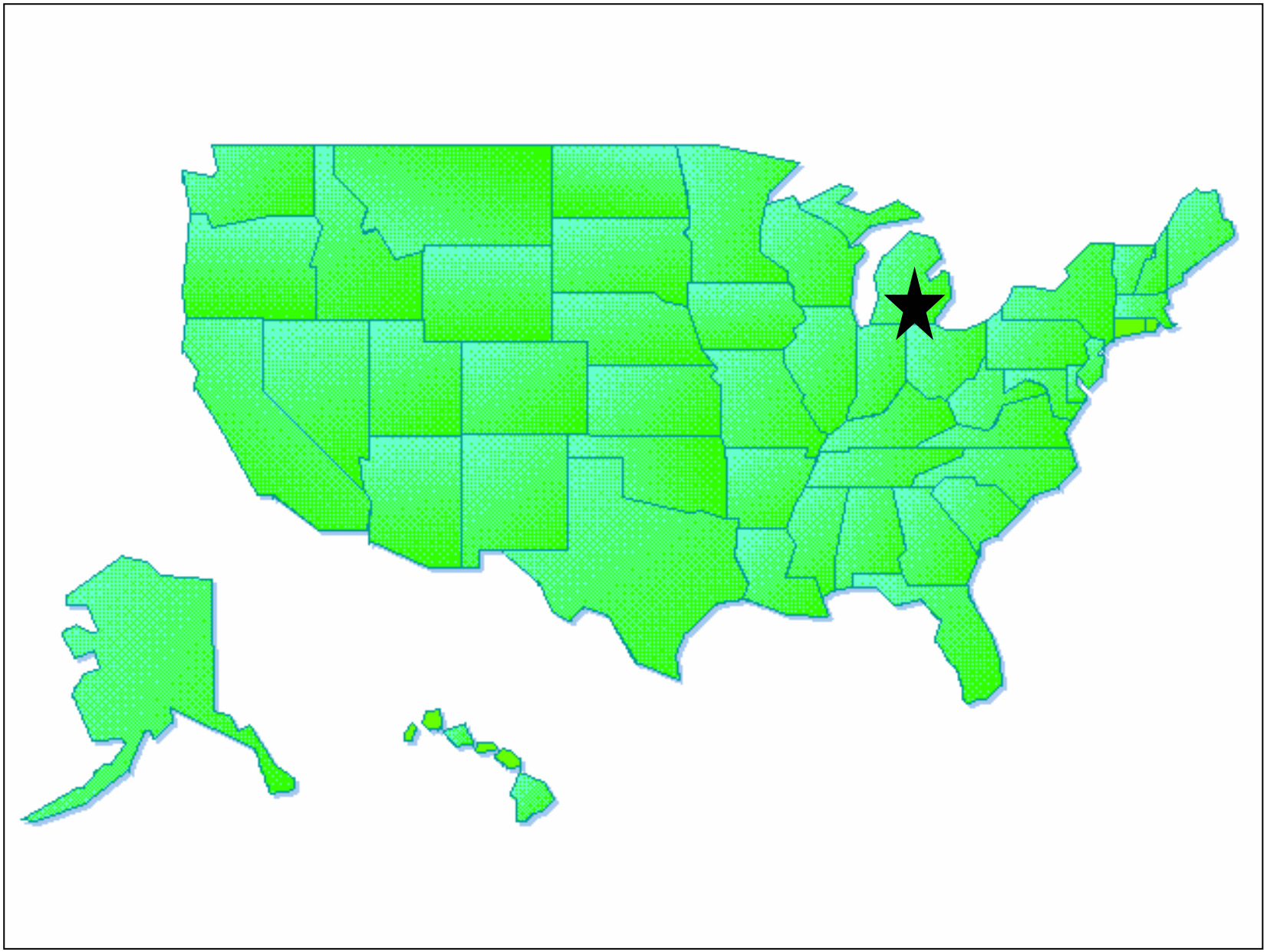

Presentation Overview

- University of Michigan Health System
- HSR and Quality Improvement
- Changing physician behavior
- GUIDES (quality)
- iCARE (pharmaceuticals)

University of Michigan Health System

Executive VP
Medical Affairs

Medical School /
Faculty Group Practice

MCARE
(Managed Care)

Hospital and Health Centers
(HHC)

Michigan Health
Corporation

University of Michigan Hospitals and Health Centers (UMHHC)

- 1.4 million ambulatory visits per year
- 37,000 hospital admissions per year
- 18 Primary Care Health Centers
- Matrix Organization
  - Ambulatory Care/HHC: Operational Support
  - Departments/FGP: Physician Practice

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HSR and Quality Improvement

	HSR	QI
Emphasis	Discovering best practices	Changing existing practices
Goal	Determine how to measure and improve care	Determine whether care has improved

Metrics for Research and QI

- Outcomes measurement is useful for validating structure and process relationships
  - Not helpful for providers in understanding how to improve care or if care has improved
- Process and structure measurement are useful for quality improvement efforts
  - Provide data for providers and systems to improve care
  - Allow public and accrediting organizations to assess care

Frequency of measurement: Research and QI

- Research studies evaluate:
  - a limited number of time points
  - one intervention at a time
- Quality Improvement focuses on:
  - continuous measurement (showing how much improvement has occurred through multiple ongoing interventions)

Moving from Research to Quality Improvement

- Medicine is becoming more evidence based
  - The evidence comes from clinical and health services research
- Purchasers are demanding that healthcare systems provide evidence based medicine
- Research therefore must be translated into practice

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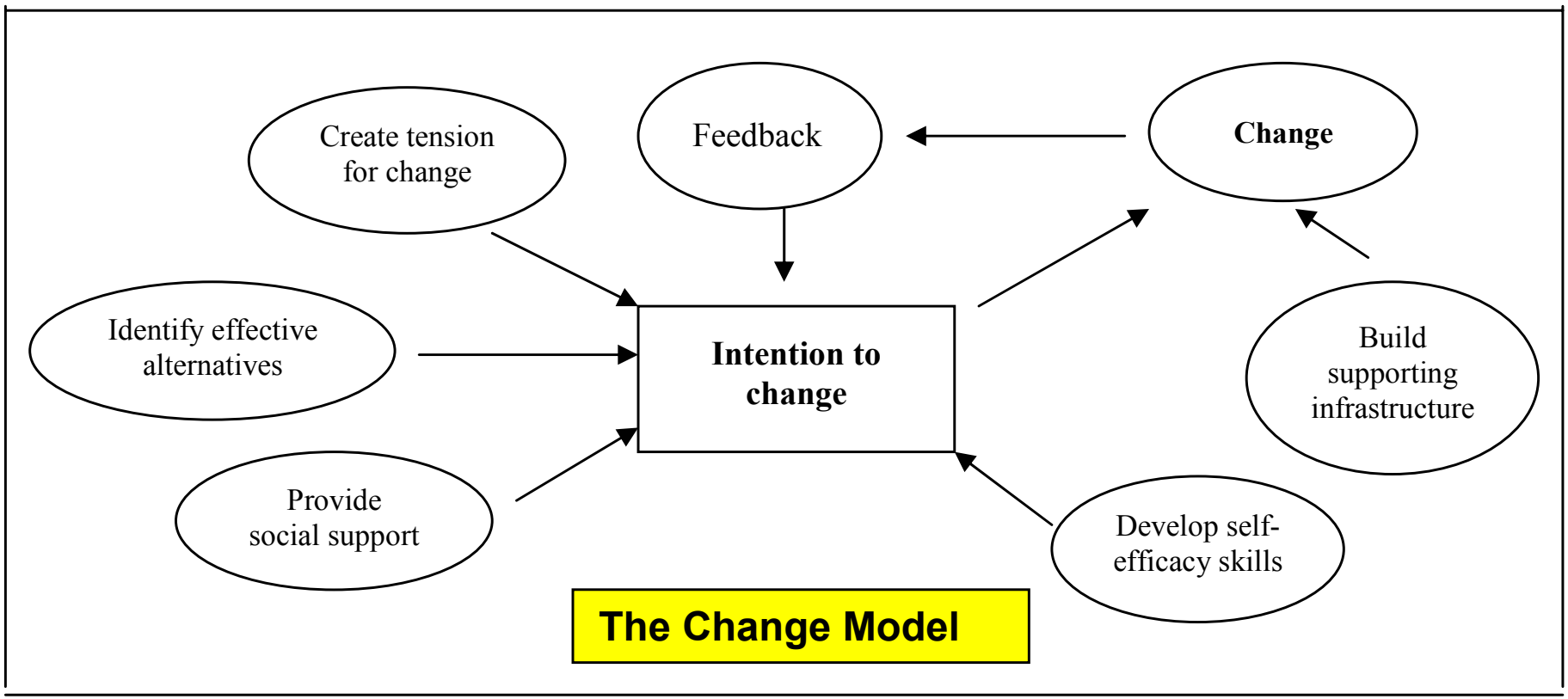
Changing Physician Behavior



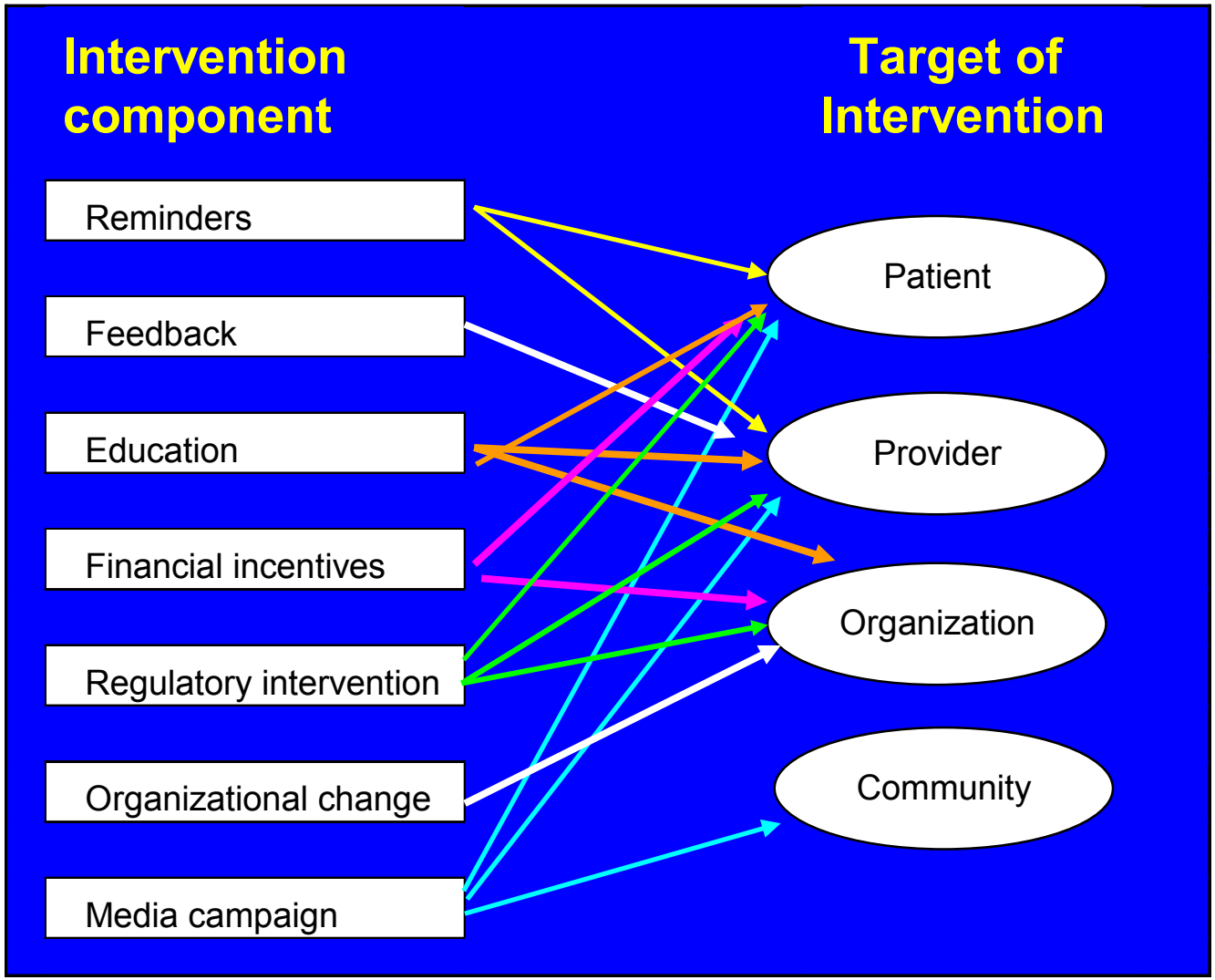
DH Gustafson et al. Systems to support health policy analysis. Health Adm. Press, 1992

Quality Improvement Efforts

Approach	Assumption
Guidelines	Knowing leads to better care
Continuing education	Bottom-up learning
Feedback/reporting	Comparison to peers
Shared decision making	More informed consumer
TQM / CQI	Systems change, not people

R Grol. JAMA 2001:284:2578-85

Interventions and their targets



Ann Intern Med 2002;136:642

Effectiveness of strategies to improve physician performance

Limited	Mixed	Highly
Educational material	Opinion leaders	Interactive education
Continuing Med Education	Feedback	Educational outreach
Total Quality Management & CQI	Patient directed	Reminders
		Computer systems
		Multifaceted interventions

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UMHS Status in the Early 1990's

- Clinical System — departmental silos
- Culture & Values — autonomy
- Knowledge — clinical care, research and teaching: not cost-effective care
- Education — students and residents experience based on the department

Development of GUIDES

1994 Managed care – UM response…

- Need cost-effective coordinated clinical care
- Need clinical leadership and administrative training

Opportunity: need to coordinate primary care

1995 Advisory Committee for UMHS Continuing Primary Care Education

- Coordination within primary care and with specialists
- Education in evidence-based cost-effective care
- Establish and fund unit focusing on primary care to:
  - Develop clinical care guidelines for UMHS
  - Provide education and training to UMHS clinicians

GUIDES: Mission

Improve the

- **quality** and **cost effectiveness**
- of **outpatient** clinical care
- for important **common medical problems** (e.g., clinical HEDIS measures and utilization issues)

Guideline Development

Functions

- Define appropriate clinical performance
- Obtain institutional consensus
- Operational implementation
- Update existing guidelines

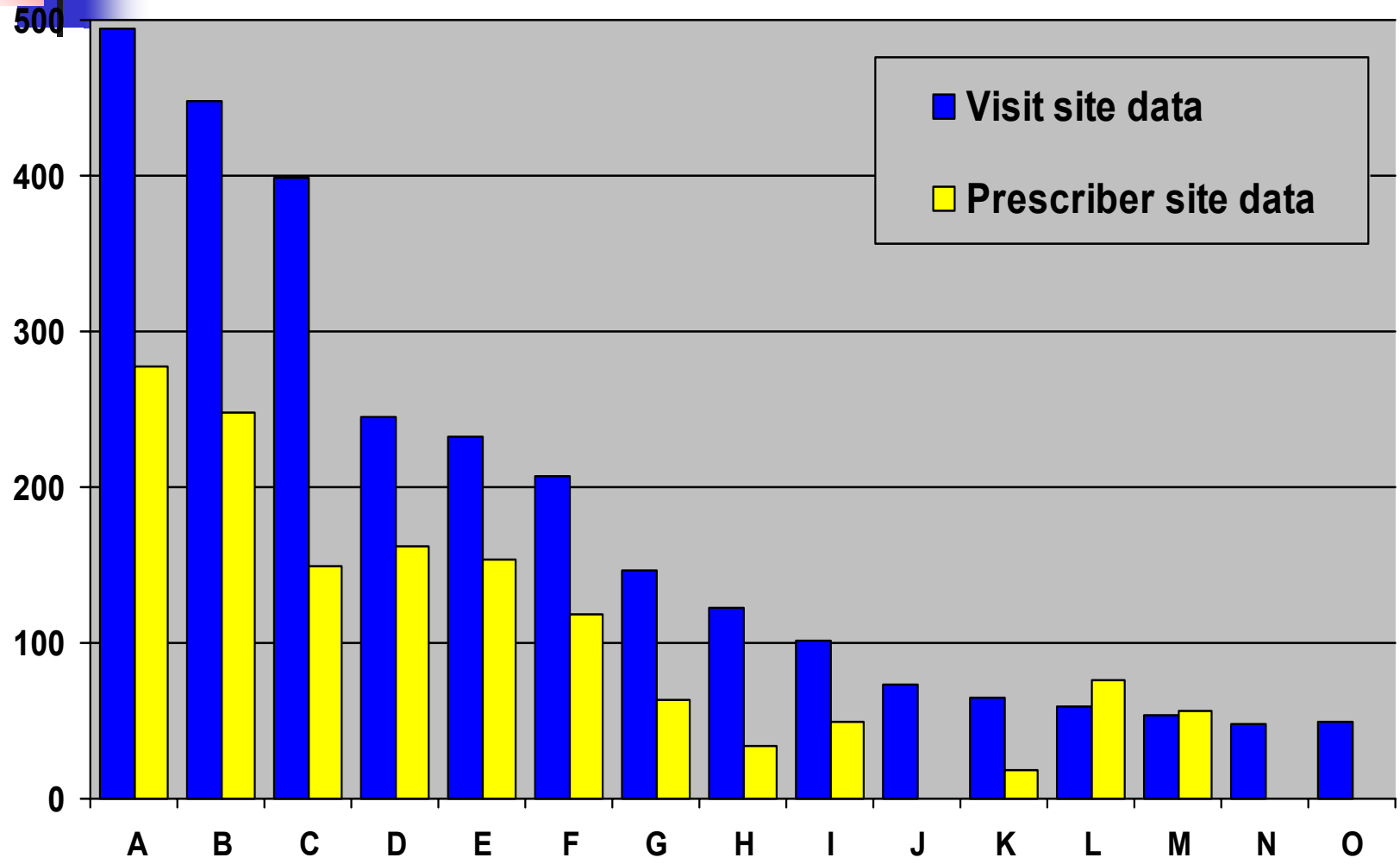
Assessing sinusitis management: A case study

- Guideline Development Team (consensus)
- Measure care (tension for change)
- Assess quality (identify alternatives rx)
- Provide social support (FGP, Department)
- Feedback data

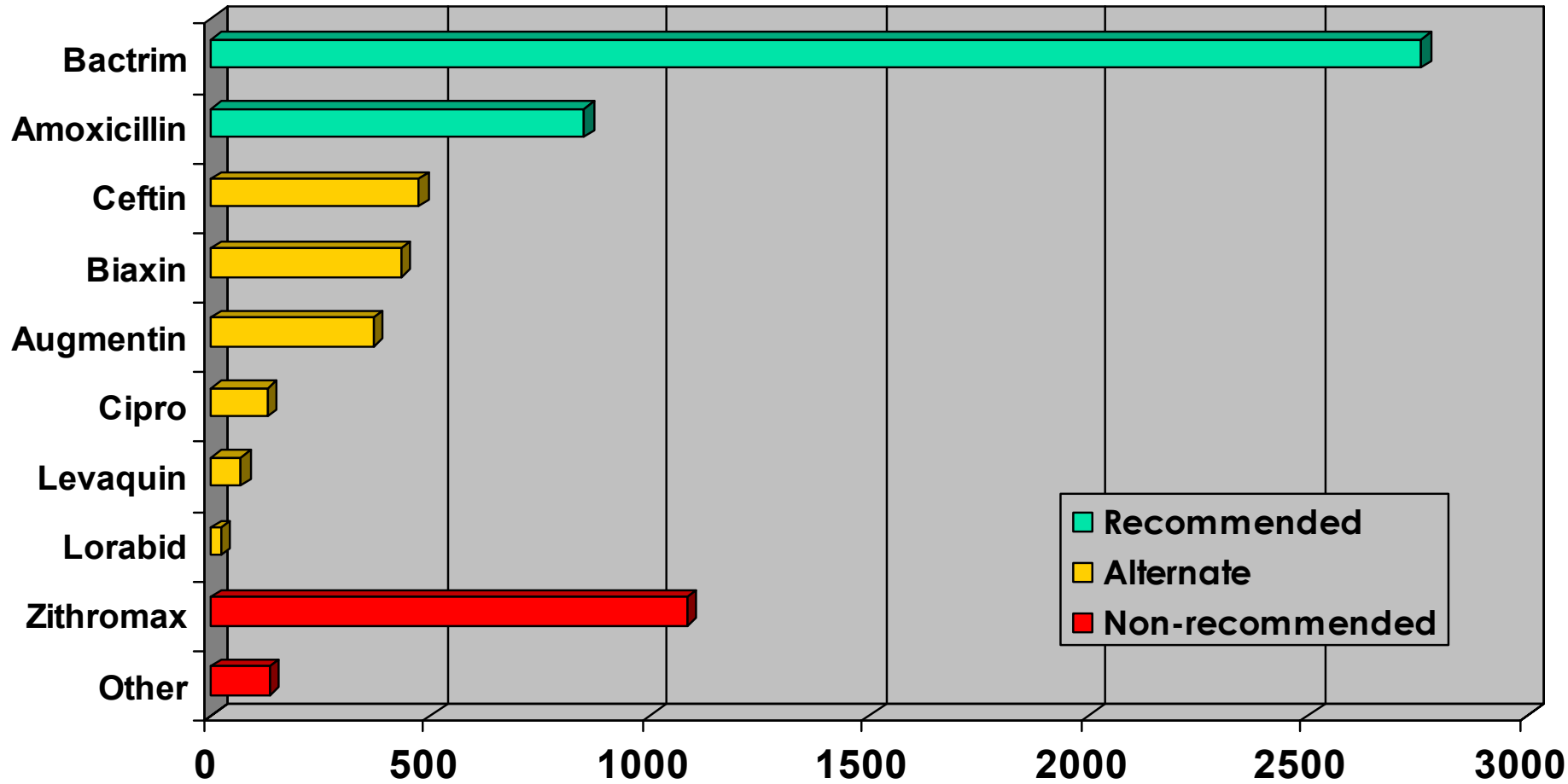
Compliance with UM Guidelines

- What proportion of pts get antibiotics?
- What proportion of pts get recommended antibiotics?
- Are there differences by specialty?
- Are there differences by physician?

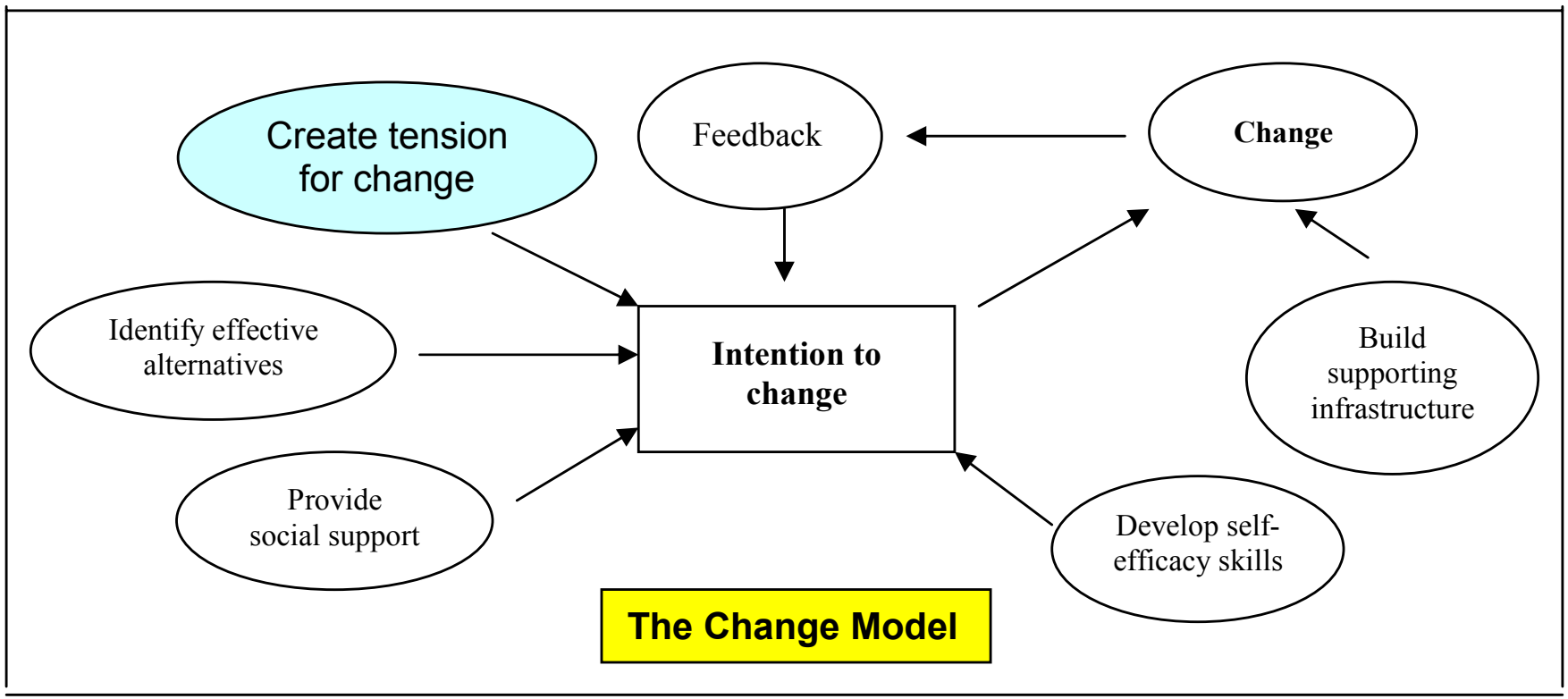
Antibiotic prescribing for sinusitis by data source



Antibiotic prescribing for sinusitis by guidelines category



Changing Physician Behavior



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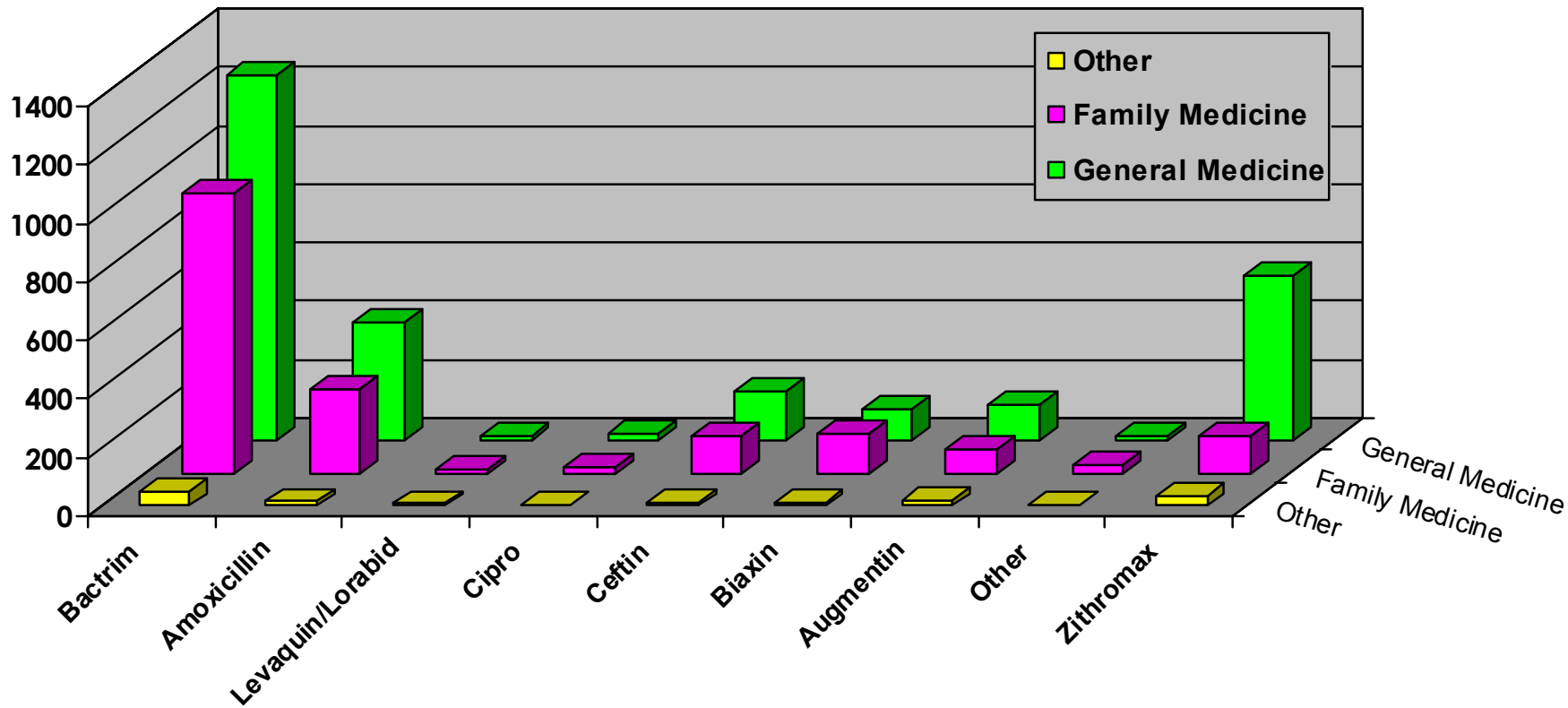
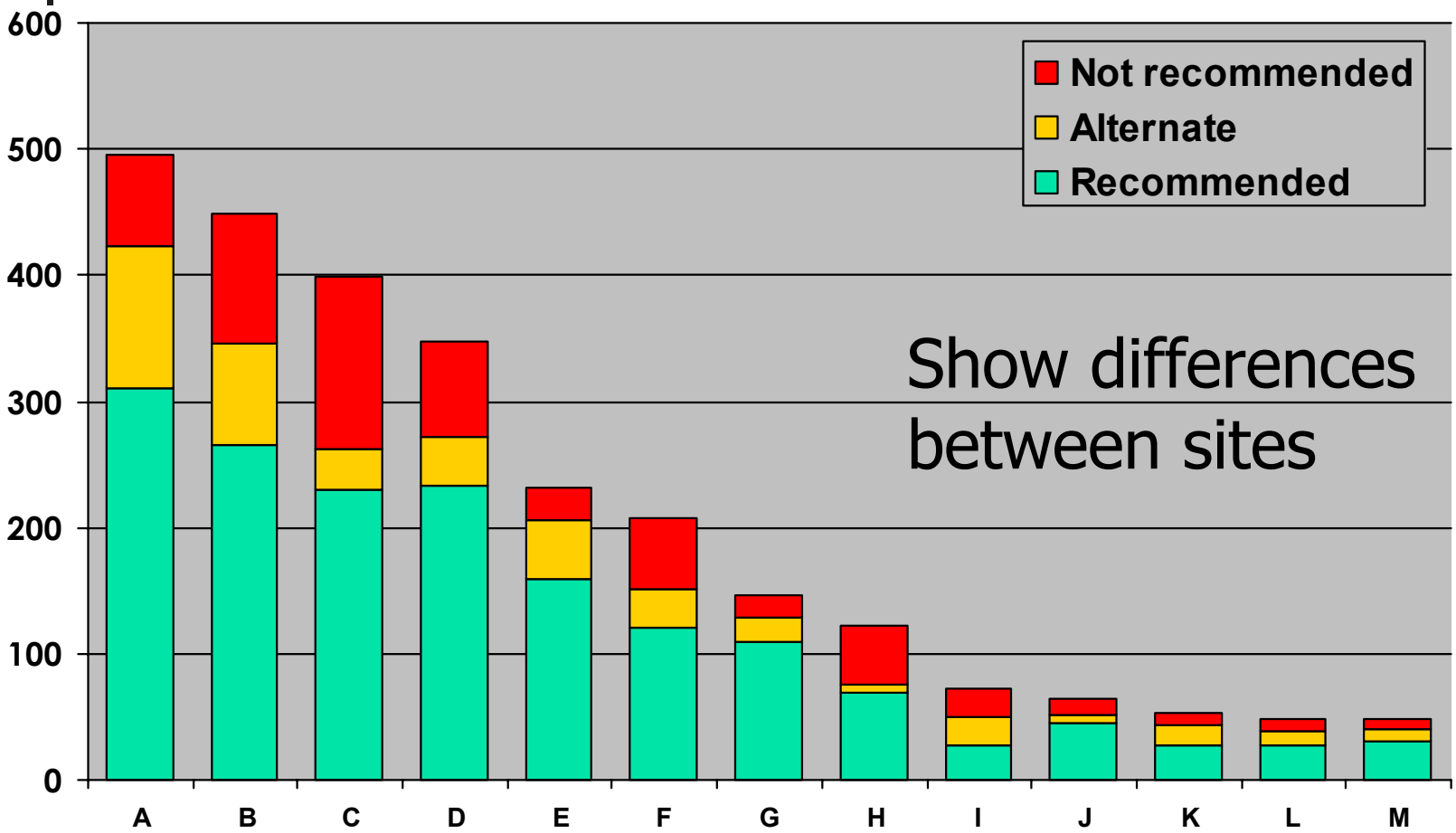
Antibiotic prescribing for sinusitis by physician specialty

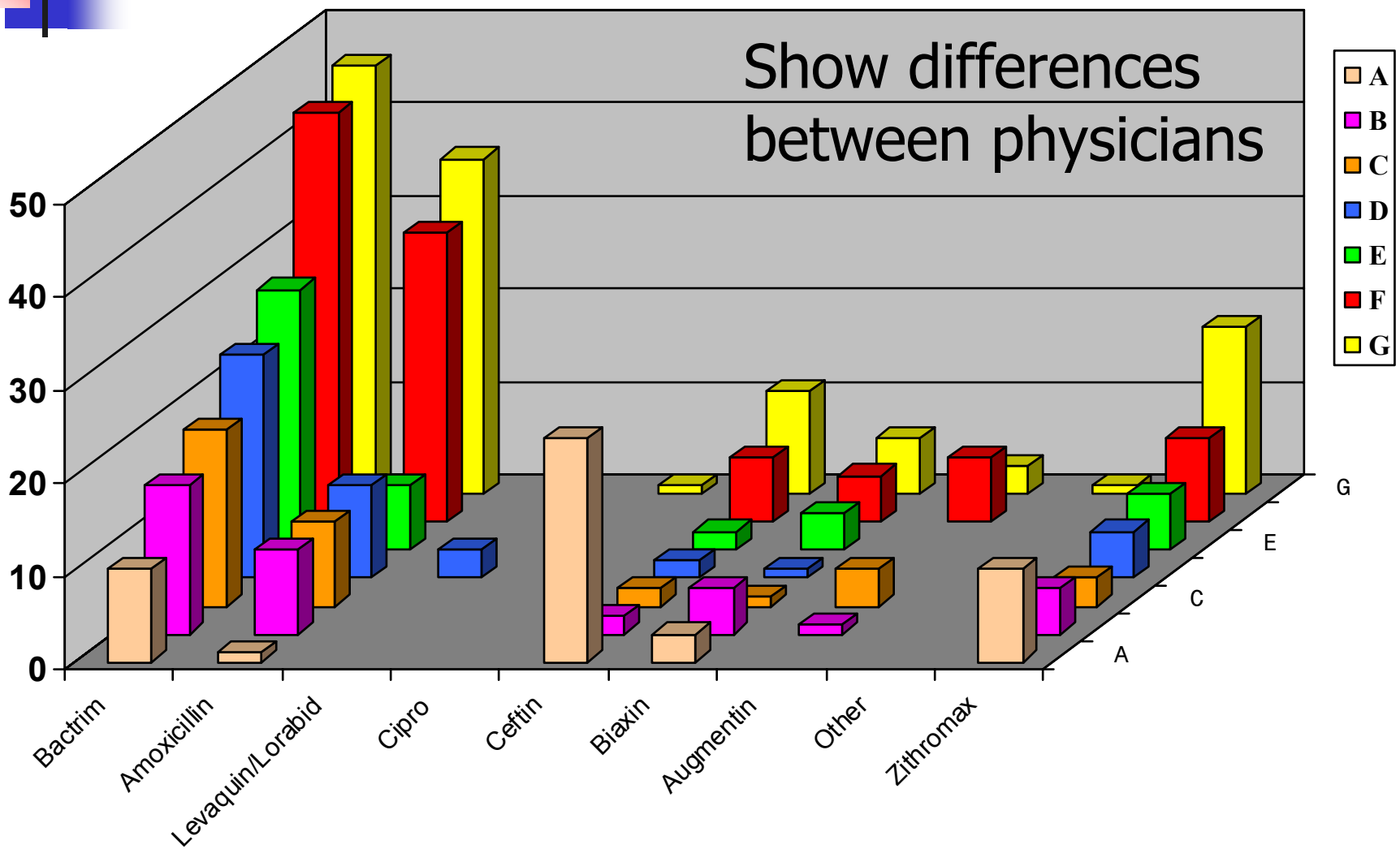
Show differences between specialties



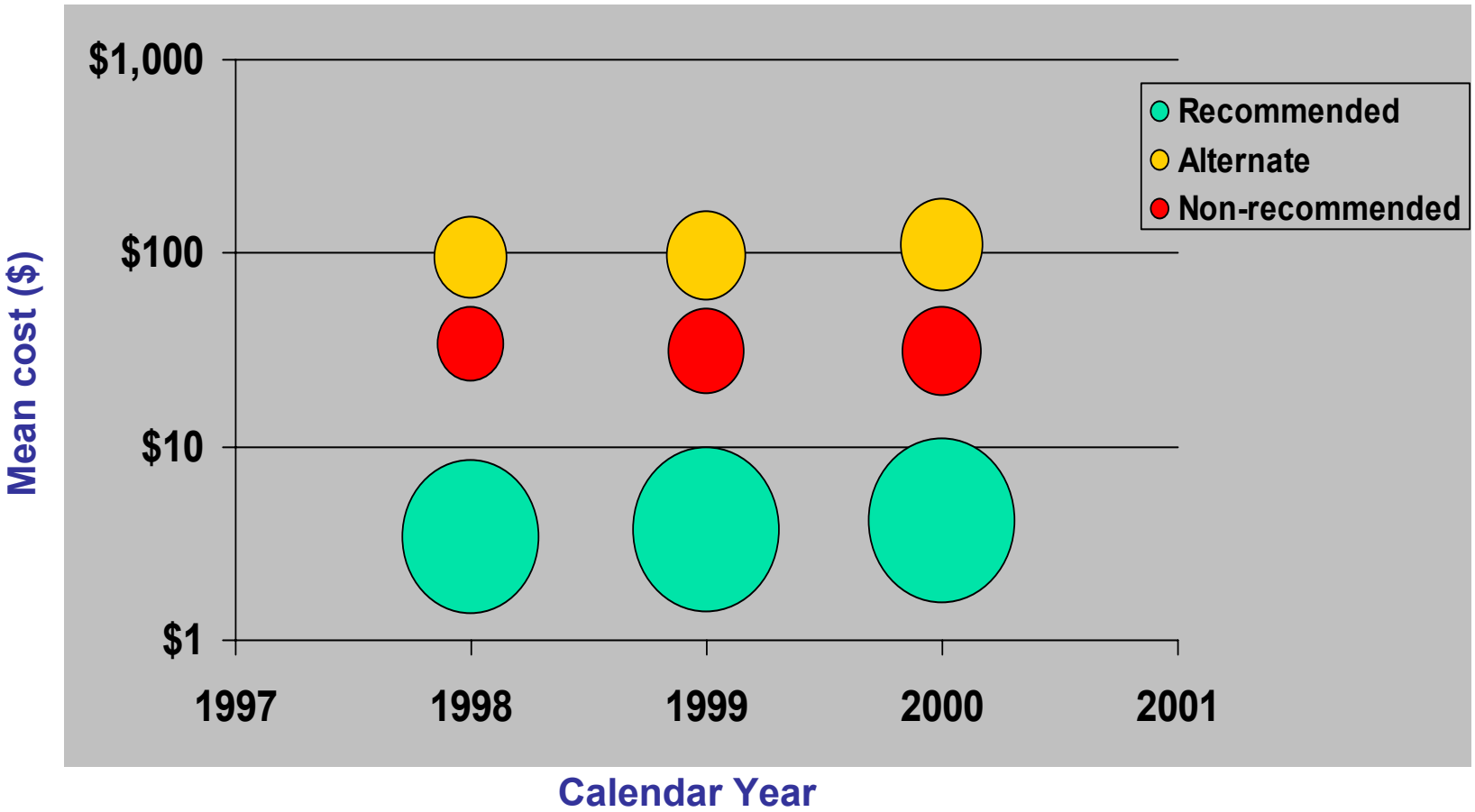
Antibiotic prescribing by Site



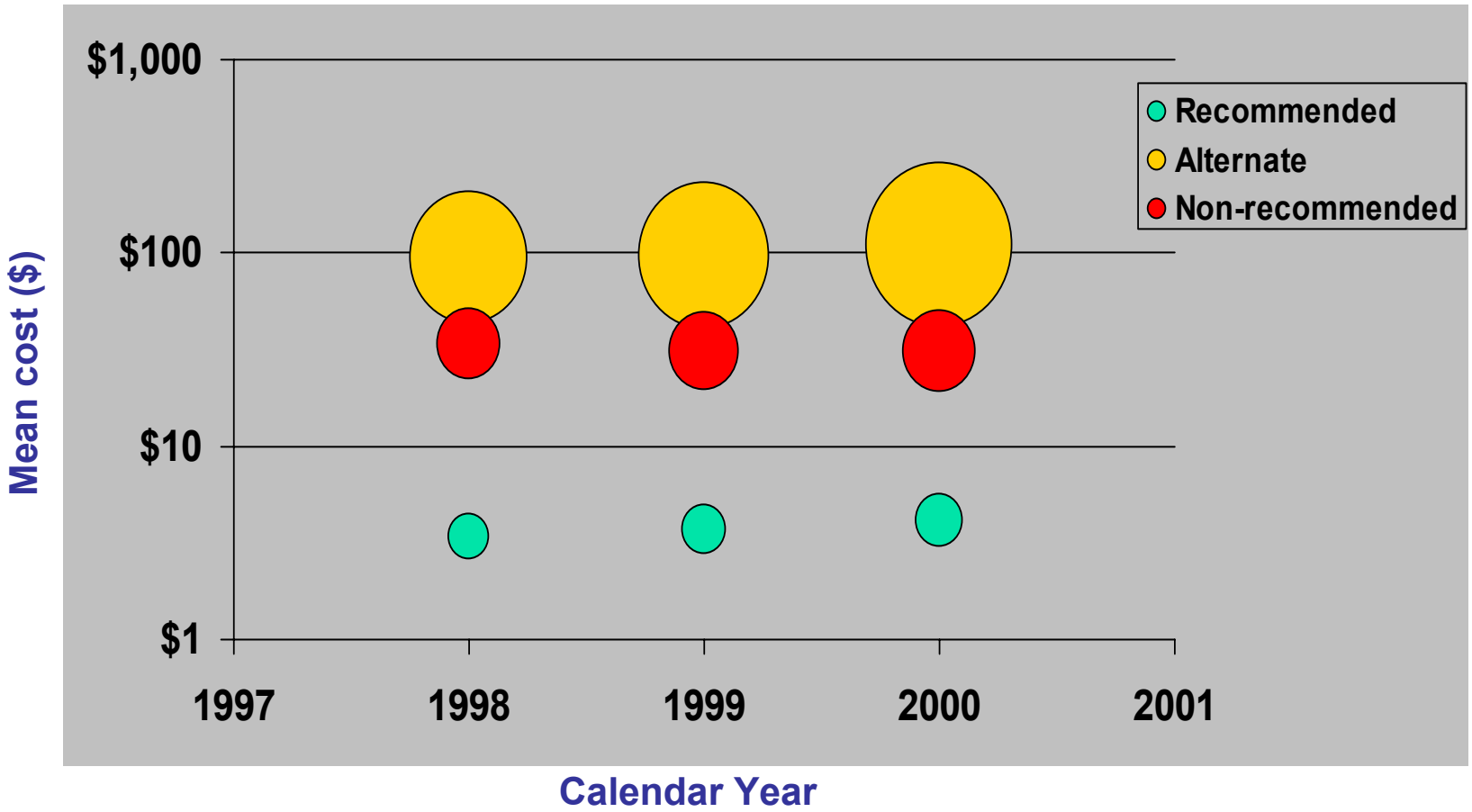
Antibiotics prescribed for sinusitis at one clinic by physician



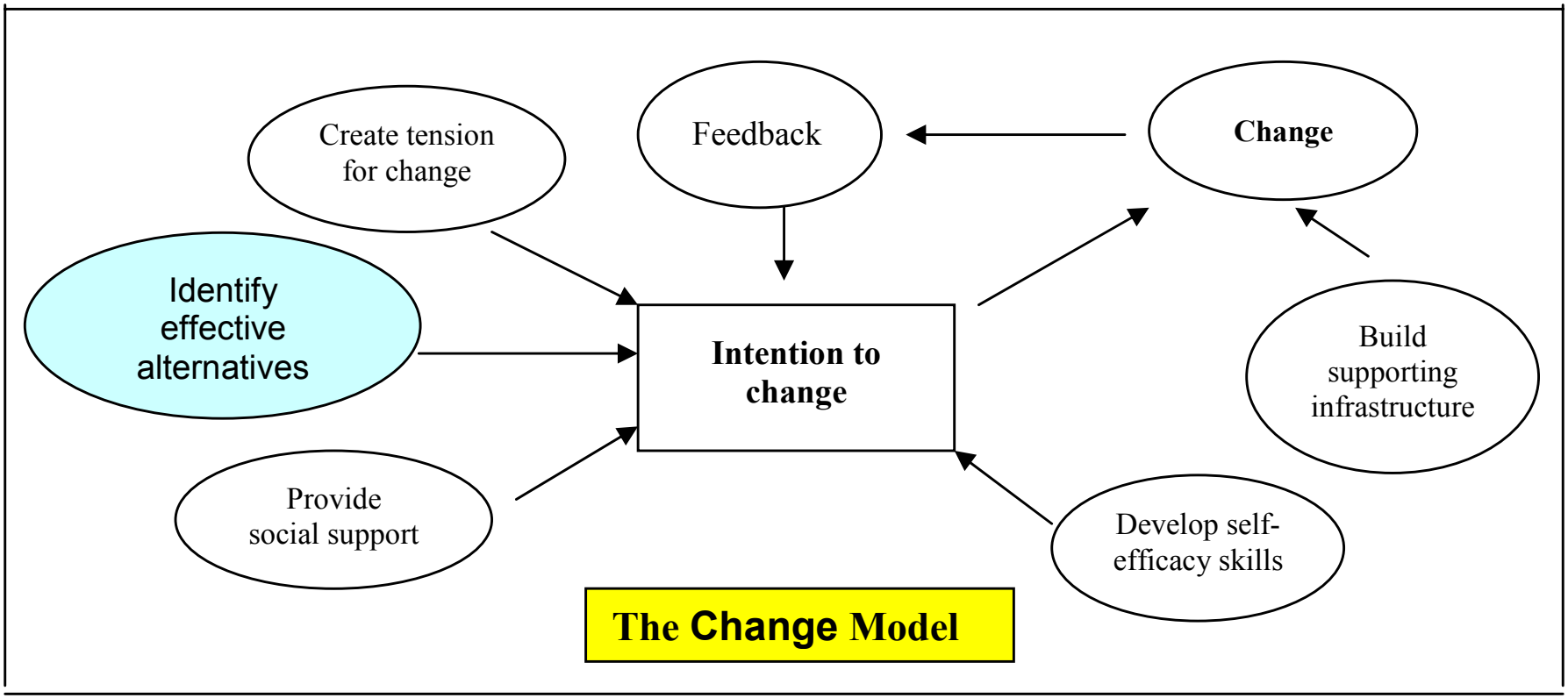
Mean cost & number of antibiotic prescriptions by UMHHC classification



Mean and total cost for antibiotic prescriptions by UMHHC classification



Changing Physician Behavior



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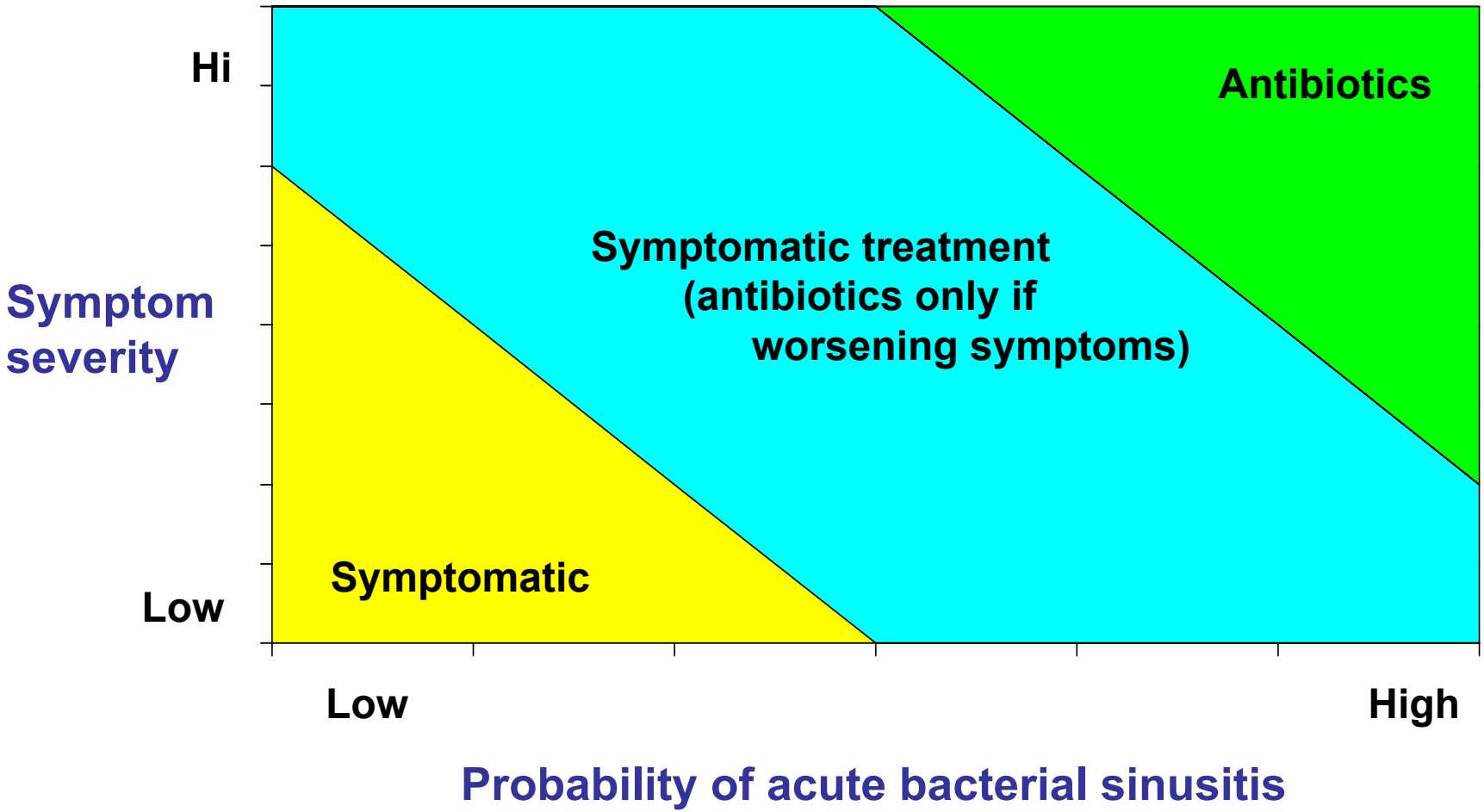
UMHS Guidelines recommended treatment for patients with sinusitis



Antibiotic recommendations

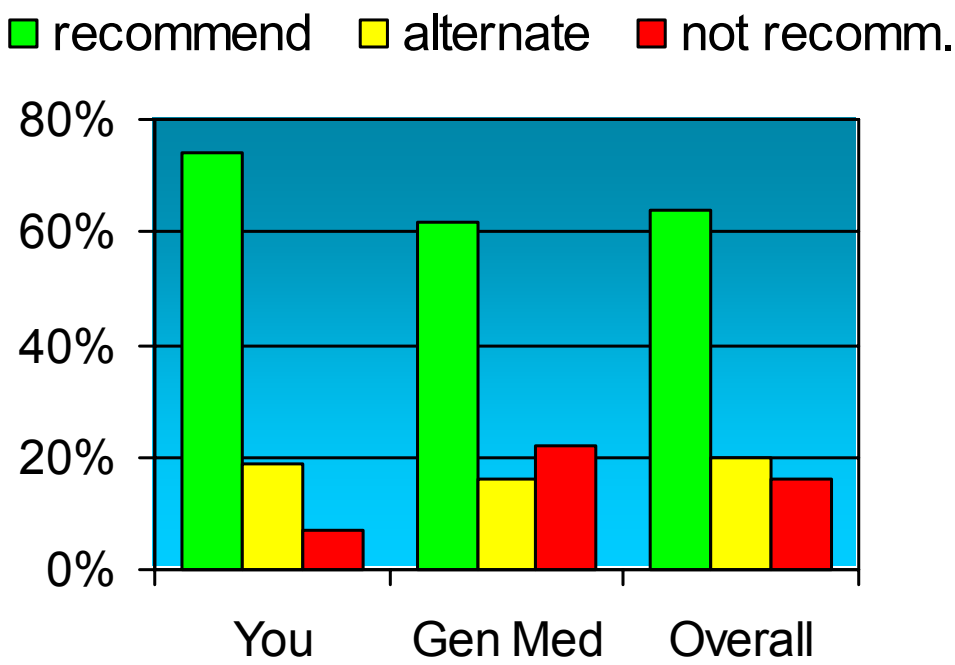
- **Recommended**
  - Amoxicillin
  - Bactrim

- **Non-recommended**
  - Azithromycin

- **Alternative**
  - Augmentin
  - Clarithromycin (biaxin)
  - Cefuroxime (ceftin)
  - Cipro or Levofloxacin
  - Loracarbef (lorabid)

Sample Feedback Material

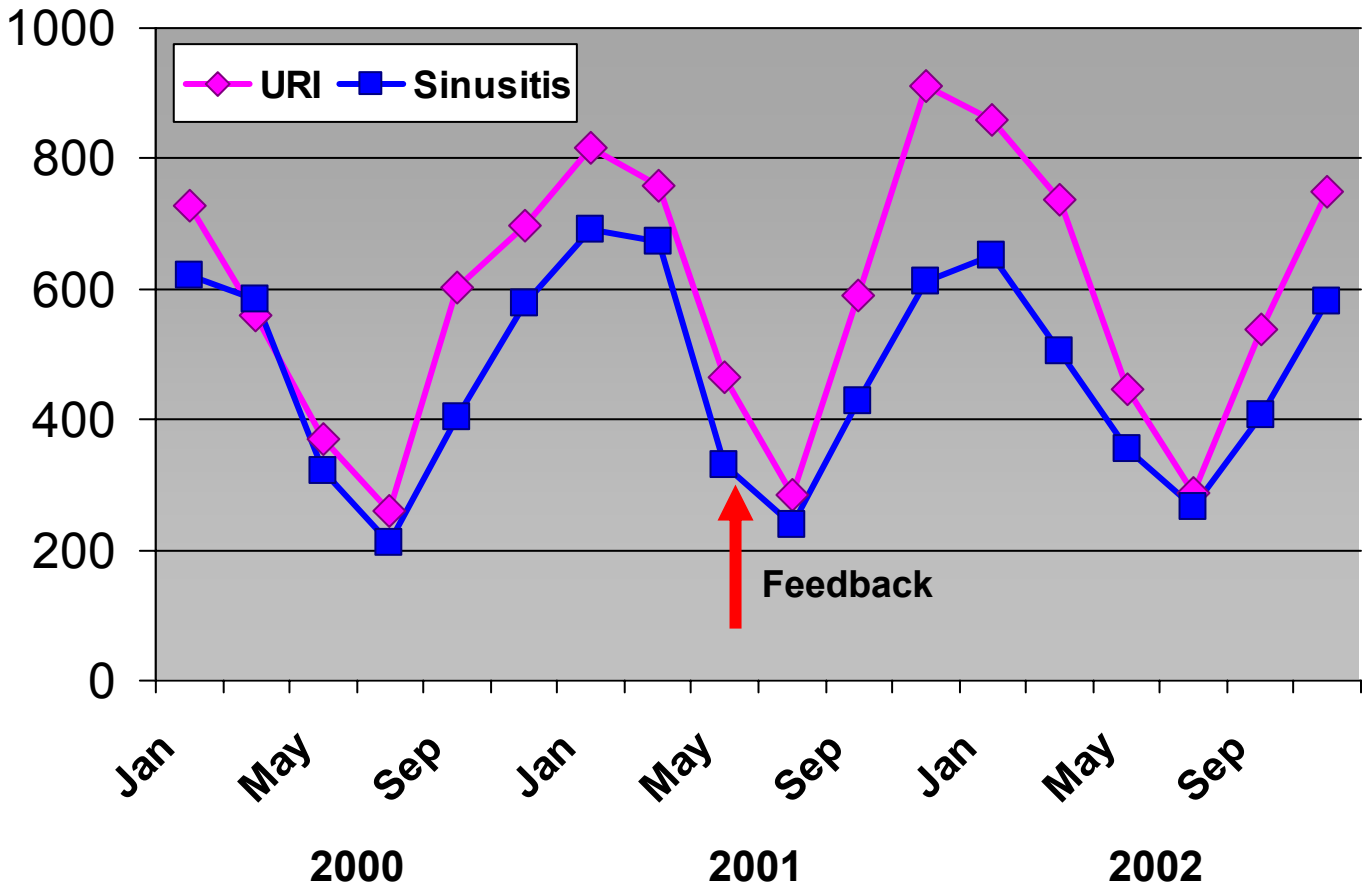
Patients with sinusitis who received a recommended antibiotic among patients treated with antibiotics	
You	74% (n=38)
General Medicine	62% (n=5571)
Overall	64% (n=4953)



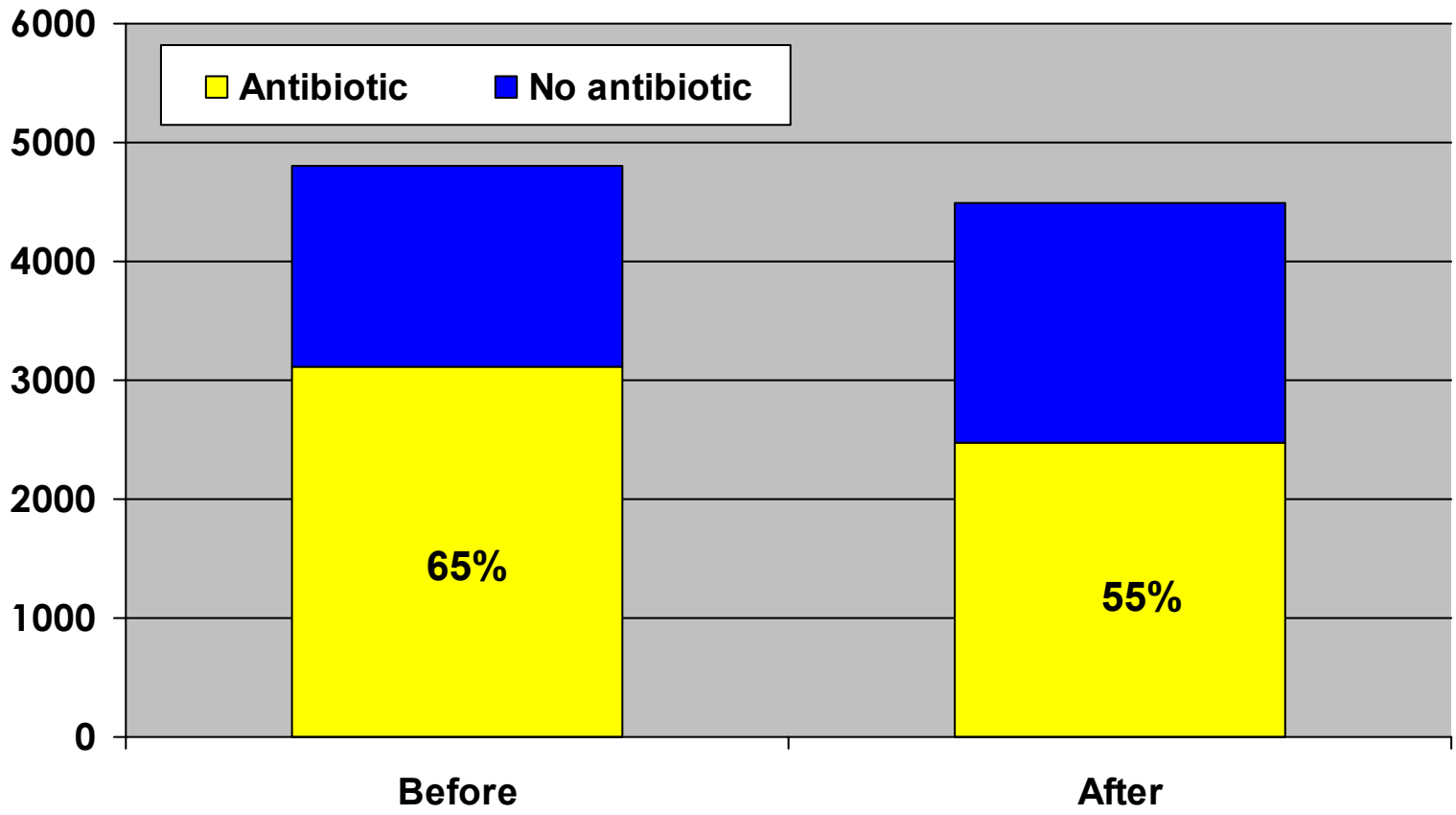
Feedback of data

- Clinical conferences
- Mail profiles to physicians
- Academic detailing
- Evaluation component
- Re-survey practice

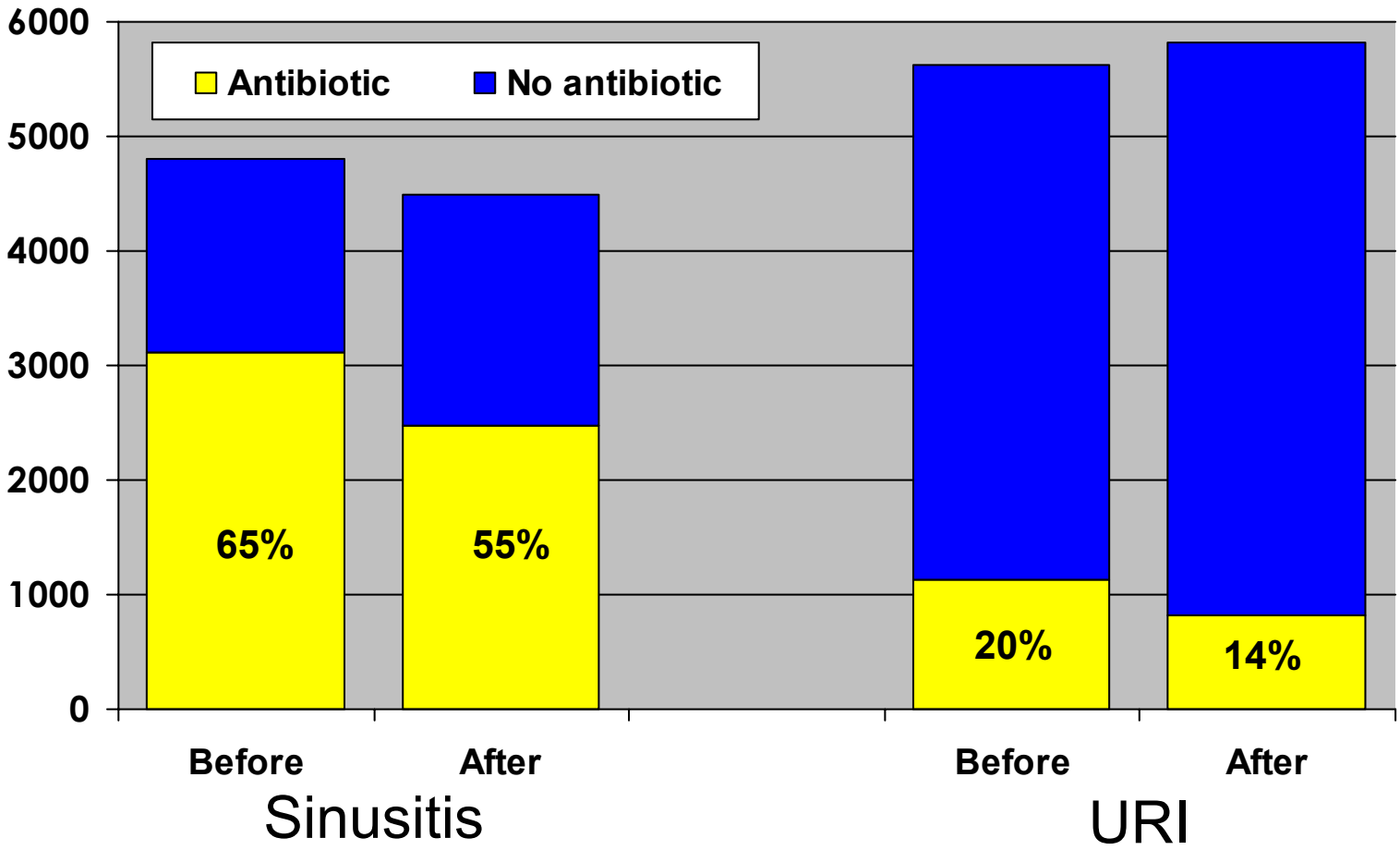
Does assessing care affect diagnoses assigned by MDs?



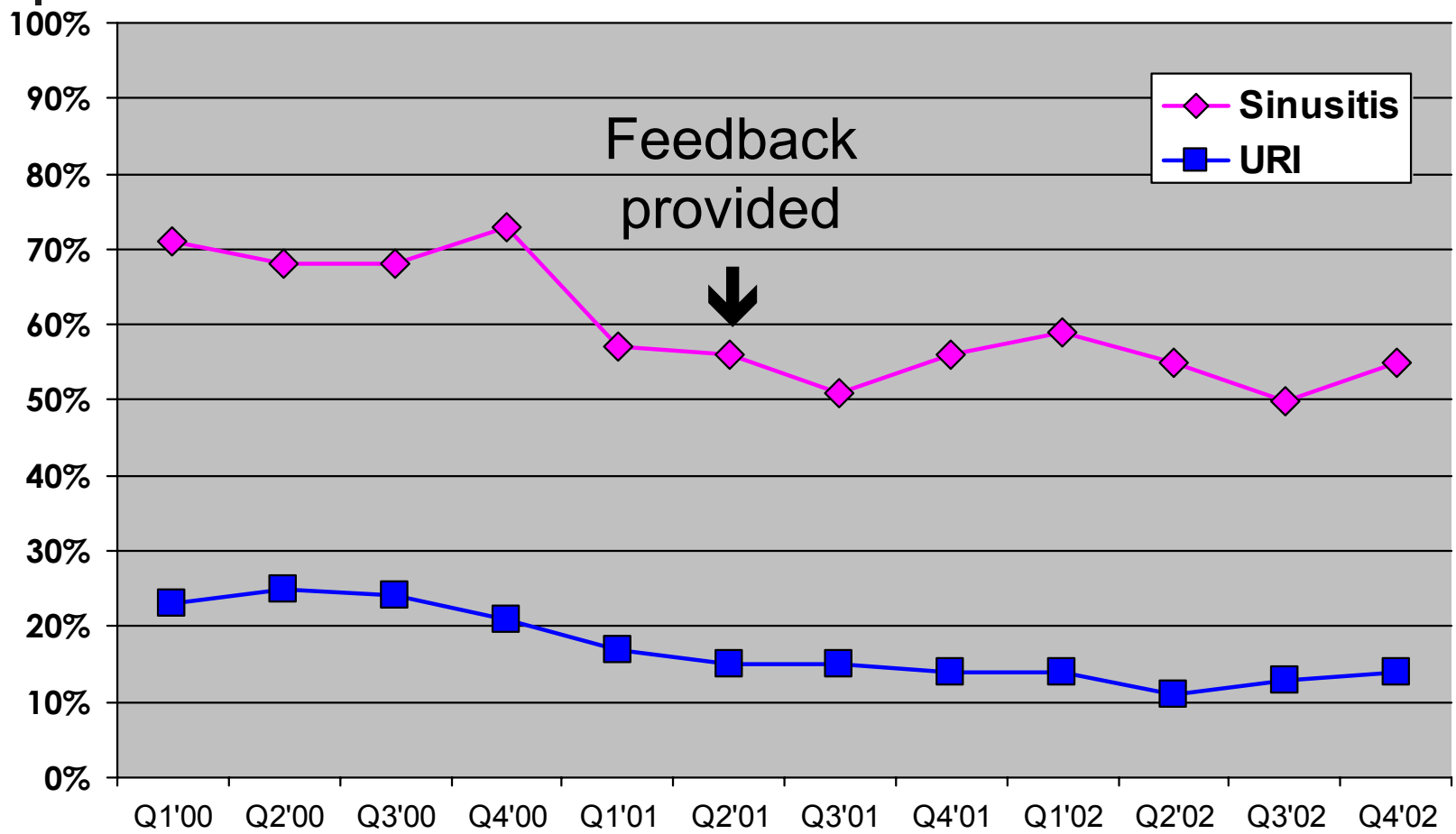
Antibiotic prescribing for sinusitis, by feedback period



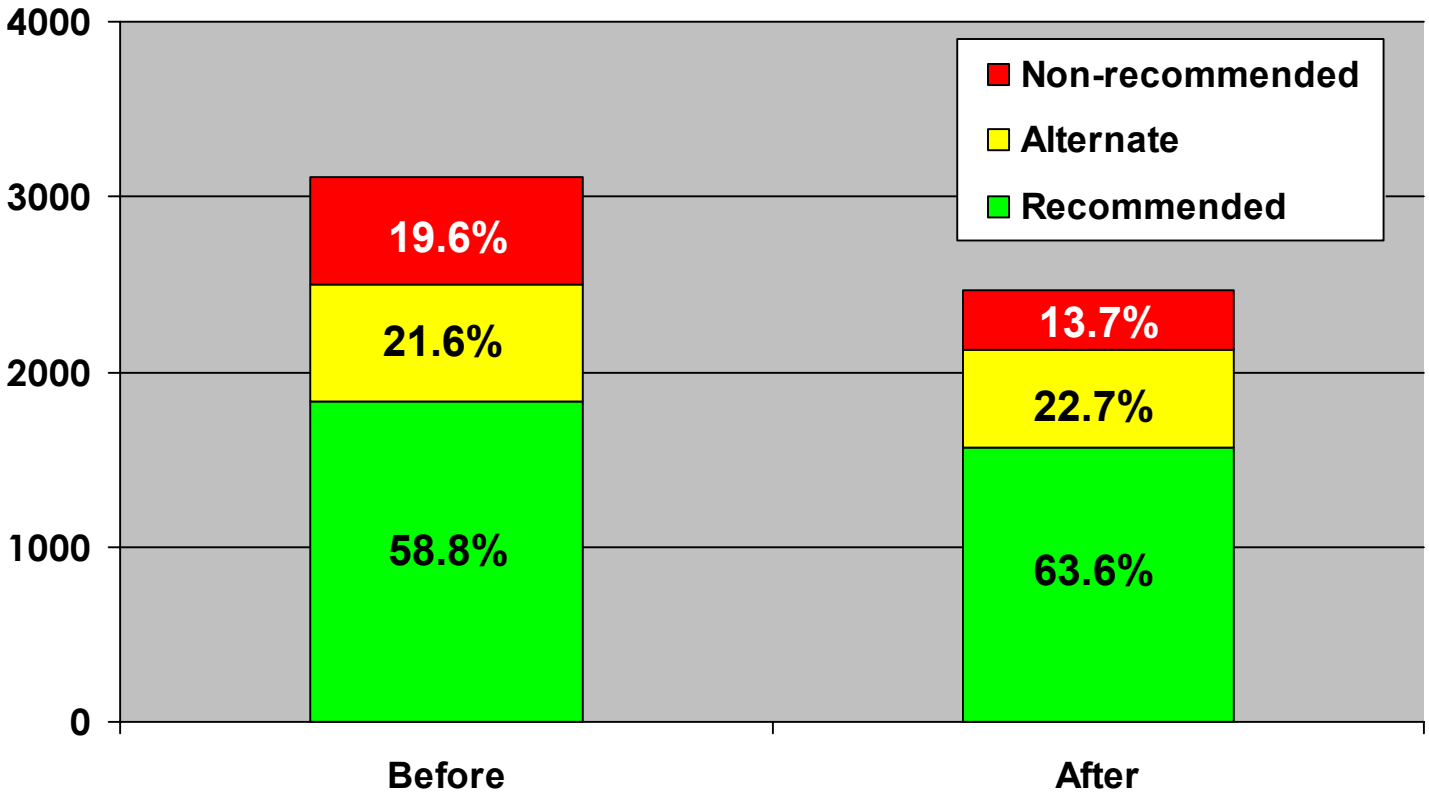
Antibiotic prescribing for sinusitis and URI, by feedback period



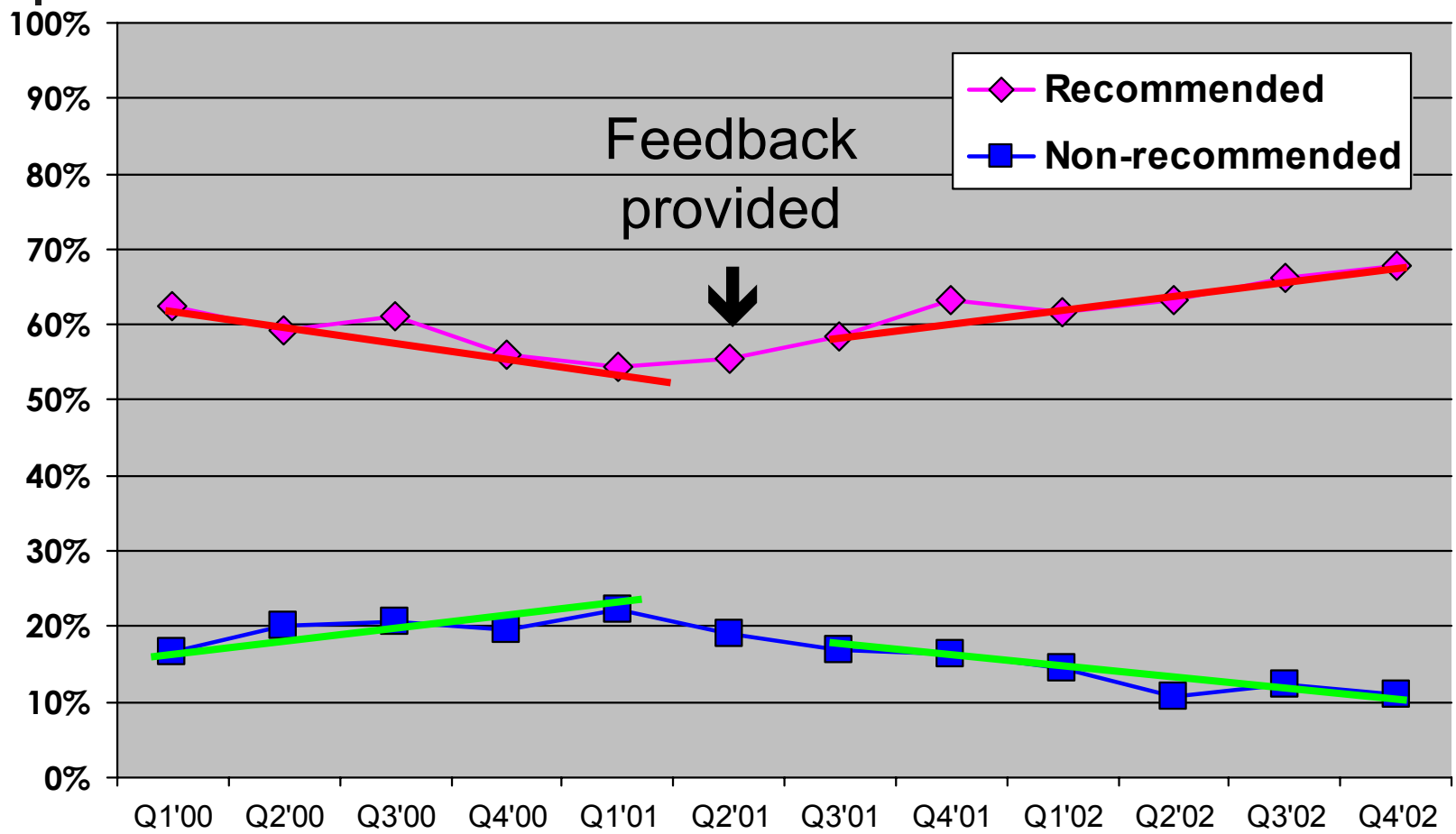
Time-trends in antibiotic prescribing for sinusitis and URI



Antibiotic prescribing for sinusitis, by recommendation & feedback period



Time-trends in antibiotic prescribing for sinusitis

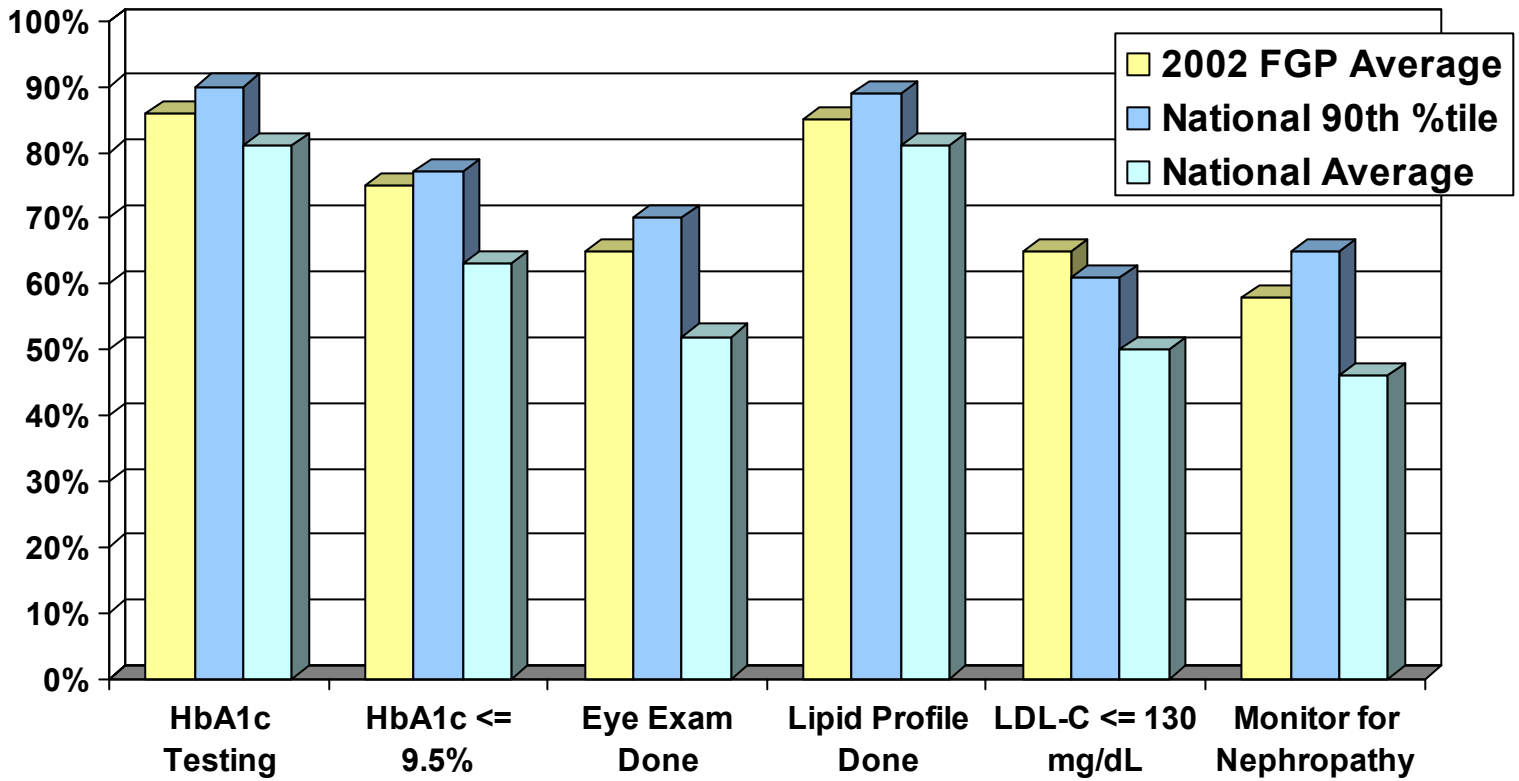


Selecting a New QI Project

- High volume, adult condition, problem prone
- Consensus on Care
  - UMHS Guideline available
- Measurable: HEDIS data available
- Importance to UM Managed Care (MCare):
  - Decreasing cardiovascular risk factors; smoking, cholesterol, diabetes, hypertension
- Importance to Southeastern Michigan:
  - Michigan Quality Improvement Consortium (MQIC)

Diabetes HEDIS Measures 2002

FGP CY2001 Results Compared to CY2001 National Benchmarks



Developing a Type II Diabetes Mellitus QI Program

- Identify stakeholders (primary care MDs Endocrine, RNs); determine scope
- Present program to Primary Care and Ambulatory Care Executive Committee for endorsement
- Make recommendation to the UMHHC Continuous Quality Improvement Committee to be an institutional QI project

UMHHC Goals & Objectives

January 2003 - June 2004

Service

Patient satisfaction mean scores on "willingness to recommend" will be at or above:

- Inpatient Adult: 88
- Inpatient Peds: 90
- Ambulatory Care: 95
- Emergency Dept.: 77

Financial Health

- FY 03 Operating margin will be 2% or greater
- FY 04 Operating margin will be 3% or greater

Quality Care

- **<12% of patients with Type II diabetes managed in primary care will have poor glucose control (i.e., A1C ≥ 9.5%)**
- Every inpatient will wear a wristband or have a fixed patient identification
- Observed to expected mortality ratios will be < 1.0 as measured using PRISM, APACHE and NSQIP clinical risk adjustment systems

Academic Support

Ambulatory Care Services will partner with departments to implement a system for scheduling patients into continuity clinics and track the type of visits to meet Residency Review Committee requirements

People

- Employee satisfaction mean score on "Willingness to Recommend" will be at or above 67
- Work-related illness and injuries resulting in lost workdays will be less than 4 per 100 FTE
- Voluntary employee departure from UMHHC will be at or less than 10%

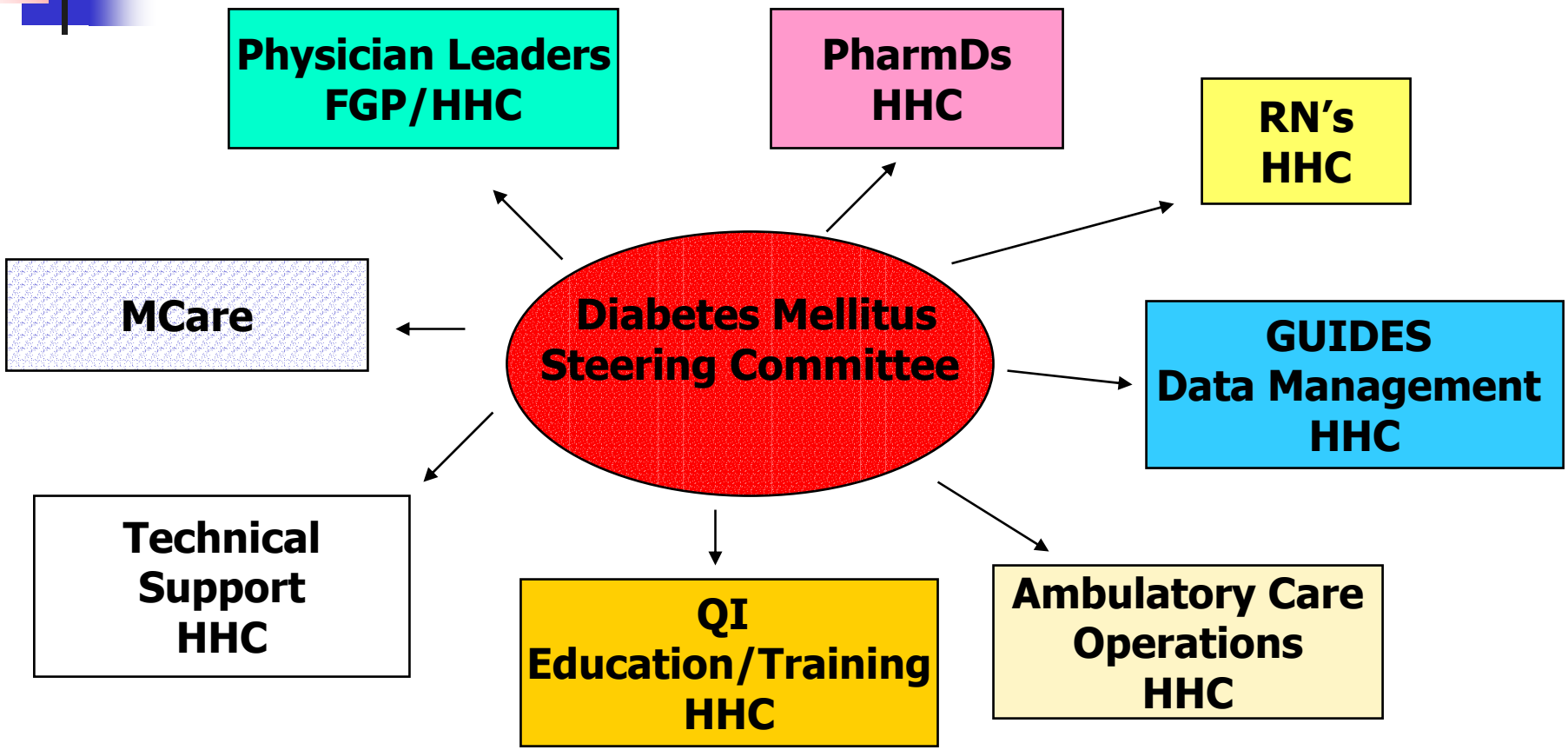
Community Health

Assess Washtenaw County Health | Improvement Plan goals and:

- Reduce reported cigarette and other drug use within the past thirty days among 8th grade students by 20%
- The quit rate for patients completing 5 or more outpatient tobacco appts. will be > 35% after 12 months follow-up

Sdwyer 12-18-02

Type II Diabetes Mellitus Quality Improvement Committee



iCARE – Improving Care with Academic Reverse DEtailing

- Rising pharmaceutical costs
- Limited way to influence pharmaceutical prescribing
- Institutional interest in studying prescribing and limiting cost

iCARE

- Two PharmDs
- 0.5 FTE programmer
- 0.25 FTE clinical lead

iCARE Implementation Activities

- Audit and Feedback
- Ban pharmaceutical reps and samples
  (no more free lunch)
- FGP-grams
- Formulary cards, web, pda
- Part of performance evaluation by departments

University of Michigan and BCBS of Michigan Prescribing Pilot

- Collaborative effort
- Data
- Findings
- Prescribing Trends
- BCBSM Incentive Results

Background

- Three organizations
  - University of Michigan
  - Blue Cross Blue Shield of Michigan
  - Ford Motor Company

Common Goal

- To maintain quality of patient care while decreasing overall costs.
- Focus on primary care physicians.
- Focus on three high cost drug classes
  - Proton Pump Inhibitors
  - Selective Serotonin Re-uptake Inhibitors
  - HMG Co-A Reductase Inhibitors

Collaborative Process

- Ambulatory Formulary Committee
- iCARE/GUIDES
- Faculty Group Practice
- House Officer Association
- Pharmacy Services
- Blue Cross Blue Shield of Michigan
- Ford Motor Company

UMHS Collaborative Interventions

- FGP grams
  - emailed to over 2,000 physicians
  - e.g., fluoxetine, Prilosec OTC, influenza
- UMHS formulary card/poster
- Individual and group physician meetings
  - individual physician prescribing data provided
  - pharmaceutical updates
  - online references

UMHS Collaborative Interventions

- New vendor policy
- New pharmacy benefit management
- Drug samples taken out of clinics

Data

- Time period: January 2001 to February 2004
- Prescription claims of BCBSM members who received at **least one** prescription during measured time period
- Compared prescribing between:
  - UM-MCARE and UM-BCBSM enrollees
  - UM-BCBSM and BCBSM Community Areas 1 and 2 enrollees (i.e., southeastern Michigan)

Financial Impact

- Four unique 6-month periods measured
- Financial incentives obtained by the UM for **each period** it achieved a lower prescription drug cost trend
  - Period 1 (03/01/02 – 08/31/02): **$ 4,500**
  - Period 2 (09/01/02 – 02/28/03): **$11,937**
  - Period 3 (03/01/03 – 08/31/03): **$40,052**
  - Period 4 (09/01/02 – 02/28/04): **$51,141**